CLAIMS

1. A recombinant or isolated collagen binding integrin subunit α10 comprising essentially the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or homologues or fragments thereof having essentially the same biological activity.

2. A process of producing a recombinant integrin subunit α10 comprising essentially the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or homologues or fragments thereof having essentially the same biological activity, which process comprises the steps of

a) isolating a polynucleotide comprising a nucleotide sequence coding for an integrin subunit α10, or homologues or fragments thereof having essentially the same biological activity,

b) constructing an expression vector comprising the isolated polynucleotide,

c) transforming a host cell with said expression vector,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of integrin subunit α10, or homologues or fragments thereof having essentially the same biological activity, in said transformed host cell, and, optionally,

e) isolating the integrin subunit α10, or homologues or fragments thereof having essentially the same biological activity, from said transformed host cell or said culture medium.

3. A process of providing an integrin subunit α10, or homologues or fragments thereof having essentially the same biological activity, whereby said subunit is isolated from a cell in which it is naturally present.

4. An isolated polynucleotide comprising a nucleotide coding for an integrin subunit α10, or for homologues or fragments thereof having essentially the same

biological activity, which polynucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 1 or SEQ ID No. 2 or suitable parts thereof.

5. An isolated polynucleotide or oligonucleotide which hybridises to a DNA or RNA coding for an integrin subunit α10, or for homologues or fragments thereof having essentially the same biological activity, wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

6. A vector comprising a polynucleotide or oligonucleotide coding for an integrin subunit α10, or for homologues or fragments thereof having essentially the same biological acitivty, which polynucleotide or oligonucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 1 or SEQ ID No. 2 or parts thereof.

7. A vector comprising a polynucleotide or oligonucleotide which hybridises to a DNA or RNA coding for an integrin subunit α10, or for homologues or fragments thereof, wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

8. A cell containing the vector as defined in any one of claims 6 and 7.

9. A cell generated by steps a) to d) of the process as defined in claim 2, in which a polynucleotide or oligonucleotide coding for an integrin subunit α10, or for homologues or fragments thereof having essentially the same biological acitivity, which polynucleotide or oligonucleotide comprises the nucleotide sequence shown in SEQ ID No. 1 or SEQ ID No. 2 or parts thereof, has been stably integrated in the cell genome.

10. Binding entities having the capability of binding specifically to an integrin subunit α10 comprising the amino acid sequence of SEQ ID No. 1 or SEQ ID No. 2, or to homologues or fragments thereof.

11. Binding entities according to claim 10, which are chosen from the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, and fragments thereof.

12. Binding entities according to claim 10, which are polyclonal or monoclonal antibodies, or fragments thereof.

13. A recombinant or isolated integrin heterodimer comprising a subunit α10 and a subunit β, in which the subunit α10 comprises essentially the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, and homologues and fragments thereof having essentially the same biological activity.

14. A recombinant or isolated integrin heterodimer according to claim 13, wherein the subunit β is β1.

15. A process of producing a recombinant integrin heterodimer comprising a subunit α10 and a subunit β, in which the subunit α10 comprises essentially the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, and homologues and fragments thereof having essentially the same biological activity, which process comprises the steps of

a) isolating one polynucleotide comprising a nucleotide sequence coding for a subunit α10 of an integrin heterodimer and, optionally, another polynucleotide comprising a nucleotide sequence coding for a subunit β of an integrin heterodimer, or polynucleotides or oligonucleotides coding for homologues or fragments thereof having essentially the same biological activity,

b) constructing an expression vector comprising said isolated polynucleotide coding for said subunit α10 optionally in combination with an expression vector comprising said isolated nucleotide coding for said subunit β,

c) transforming a host cell with said expression vector or vectors,

d) culturing said transformed host cell in a culture medium under conditions suitable for expression of an integrin heterodimer comprising a subunit α10 and a subunit β, or homologues or fragments thereof having essentially the same biological activity, in said transformed host cell, and, optionally,

e) isolating the integrin heterodimer comprising a subunit α10 and a subunit β, or homologues or fragments thereof having essentially the same biological activity, or the α10 subunit thereof from said transformed host cell or said culture medium.

16. A process of providing a integrin heterodimer comprising a subunit α10 and a subunit β, or homologues or fragments thereof having essentially the same biological activity, whereby said integrin heterodimer is isolated from a cell in which it is naturally present.

17. A cell containing a first vector, said first vector comprising a polynucleotide or oligonucleotide coding for a subunit α10 of an integrin heterodimer, or for homologues or parts thereof having essentially the same biological activity, which polynucleotide or oligonucleotide comprises essentially the nucleotide sequence shown in SEQ ID No. 1 or SEQ ID No. 2 or parts thereof, and a second vector, said second vector comprising a polynucleotide or oligonucleotide coding for a subunit β of an integrin heterodimer, or for homologues or fragments thereof having essentially the same biological activity.

18. Binding entities having the capability of binding specifically to an integrin heterodimer comprising a subunit α10 and a subunit β, or to homologues or fragments thereof having essentially the same biological activity, or an subunit α10 thereof, having essentially the same biological activity.

19. Binding entities according to claim 18, wherein the subunit β is β1.

20. Binding entities according to claim 18 or 19, which are chosen among the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, and fragments thereof.

21. Binding entities according to claim 18 or 19, which are polyclonal or monoclonal antibodies

22. A fragment of the integrin subunit α10, which fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

23. A fragment according to claim 22, which is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

24. A fragment according to claim 22, which comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ ID No. 1.

25. A fragment according to claim 22, which is a peptide comprising the amino acid sequence from about amino acid No. 140 to about amino acid no. 337 of SEQ ID No. 1.

26. A method of producing a fragment of the integrin subunit α10 as defined in any one of claims 22-25, which method comprises a sequential addition of amino acids containing protective groups.

27. A polynucleotide or oligonucleotide coding for a fragment of the integrin subunit α10 as defined in any one of claims 22-25.

28. Binding entities having the capability of binding specifically to a fragment of the human integrin subunit α10 as defined in any one of claims 22-25.

29. Binding entities according to claim 28, which are chosen from the group comprising proteins, peptides, carbohydrates, lipids, natural integrin binding ligands, and fragments thereof.

30. Binding entities according to claim 28, which are polyclonal or monoclonal antibodies, or fragments thereof.

31. An *in vitro* process of using an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or a homologue or fragment of said integrin or subunit having essentially the same biologically activity, as a marker or target molecule of cells or tissues expressing said integrin subunit α10, which cells or tissues are of animal including human origin.

32. An *in vitro* process according to claim 31, whereby said fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

33. An *in vitro* process according to claim 31, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

34. An *in vitro* process according to claim 31, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

35. An *in vitro* process according to claim 31, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 1.

36. An *in vitro* process according to claim 31, whereby the subunit β is β1.

37. An *in vitro* process according to claim 31, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

38. An *in vitro* process according to any one of claims 31-37, which process is used during pathological conditions involving said subunit α10.

39. An *in vitro* process according to claim 38, which pathological conditions comprise damage of cartilage.

40. An *in vitro* process according to claim 38, which pathological conditions comprise trauma, rheumatoid arthritis and osteoarthritis.

41. An *in vitro* process according to any one of claims 31-37, which is a process for detecting the formation of cartilage during embryonal development.

42. An *in vitro* process according to any one of claims 31-37, which is a process for detecting physiological or therapeutic reparation of cartilage.

43. An *in vitro* process according to any one of claims 31-37, which is a process for selection and analysis, or for sorting, isolating or purification of chondrocytes.

44. An *in vitro* process according to any one of claims 31-37, which is a process for detecting regeneration of cartilage or chondrocytes during transplantation of cartilage or chondrocytes.

45. A process according to any one of claims 31-37, which is a process for in vitro studies of differentiation of chondrocytes.

46. An *in vitro* process of using binding entities having the capability of binding specifically to an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or to homologues or fragments thereof having essentially the same biological activity, as markers or target molecules of cells or tissues expressing said integrin subunit α10, which cells or tissues are of animal including human origin.

47. An *in vitro* process according to claim 46, whereby said fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

48. An *in vitro* process according to claim 46, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

49. An *in vitro* process according to claim 46, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

50. An *in vitro* process according to claim 46, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid No. 337 of SEQ ID No. 1.

51. An *in vitro* process according to claim 46, whereby the subunit β is β1.

52. An *in vitro* process according to any one of claims 46-51, which is a process for detecting the presence of an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or of an integrin heterodimer comprising said subunit α10 and a subunit β, or of homologues or fragments thereof having essentially the same biological activity.

53. An *in vitro* process according to any one of claims 46-51, which process is a process for determining the differentiation-state of cells during embryonic development, angiogenesis, or development of cancer.

54. An *in vitro* process for detecting the presence of a integrin subunit α10, or of a homologue or fragment of said integrin subunit having essentially the same biological activity, on cells, whereby a polynucleotide or oligonucleotide chosen from the group comprising a polynucleotide or oligonucleotide shown in SEQ ID No. 1 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

55. An *in vitro* process according to claim 54, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

56. An *in vitro* process according to claim 54, whereby said fragment is a peptide chosen from the group

comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

57. An *in vitro* process according to claim 54, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

58. An *in vitro* process according to claim 54, whereby said fragment comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ ID No. 1.

59. An *in vitro* process according to claim 54, whereby said fragment comprises the amino acid sequence from about amino acid No. 140 to about amino acid No. 337 of SEQ ID No. 1.

60. An *in vitro* process according to any one of claims 54-59, which is a process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration or in therapeutic and physiological reparation of cartilage.

61. An *in vitro* process according to claim 60, wherein the pathological conditions are any pathological conditions involving the integrin subunit α10.

62. An *in vitro* process according to claim 61, whereby said pathological conditions are rheumatoid arthritis, osteoarthrosis or cancer.

63. An *in vitro* process according to claim 60, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

64. An *in vitro* process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration and in therapeutic and physiological reparation of cartilage, whereby a polynucleotide or oligonucleotide chosen from the nucleotide sequence shown in SEQ ID No. 1 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

65. An *in vitro* process according to claim 64, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

66. An *in vitro* process according to claim 65, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

67. An *in vitro* process according to claim 65, whereby said peptide comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

68. An *in vitro* process according to claim 65, whereby said peptide comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 1.

69. An *in vitro* process according to claim 65, whereby said pathological conditions are any pathological conditions involving the integrin subunit α10.

70. An *in vitro* process according to claim 69, whereby said pathological conditions are rheumatoid arthritis, osteoarthrosis or cancer.

71. An *in vitro* process according to claim 69, whereby said pathological conditions are atherosclerosis or inflammation.

72. An *in vitro* process according to any one of claims 64-71, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

73. A pharmaceutical composition comprising as an active ingredient a pharmaceutical agent or an antibody which is capable of using an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or

subunit α10 having essentially the same biological activity, as a target molecule.

74. A pharmaceutical composition according to claim 73, for use in stimulating, inhibiting or blocking the formation of cartilage, bone or blood vessels.

75. A pharmaceutical composition according to claim 73, for use in preventing adhesion between tendon/ligaments and the surrounding tissue after infection, inflammation and after surgical intervention where adhesion impairs the function of the tissue.

76. A vaccine comprising as an active ingredient an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit α10, or DNA or RNA coding for said integrin subunit α10.

77. *In vitro* use of the integrin subunit α10 as a marker or target in transplantation of cartilage or chondrocytes.

78. An *in vitro* method of using binding entities having the capability of binding specifically to an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or to homologues or fragments thereof having essentially the same biological activity, for promoting adhesion of chondrocytes and/or osteoblasts to surfaces of implants to stimulate osseointegration.

79. A method of *in vitro* detecting the presence of integrin binding entities, comprising interaction of an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit having essentially the same biological activity, with a sample, thereby causing said integrin, subunit α10, or homologue or fragment thereof, to modulate the binding to its natural ligand or other integrin binding proteins present in said sample.

80. A method of *in vitro* studying consequences of the interaction of a human heterodimer integrin comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit having essentially the same biological activity, with an integrin binding entity and thereby initiate a cellular reaction.

81. A method according to claim 80, whereby the consequences of said interactions are measured as alterations in cellular functions.

82. An *in vitro* method of using DNA or RNA encoding an integrin subunit α10 or homologues or fragments thereof as a target molecule.

83. An *in vitro* method according to claim 82, whereby a polynucleotide or oligonucleotide hybridises to the DNA or RNA encoding an integrin subunit α10, or homologues or fragments thereof having essentially the same biological activity, and whereby said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

84. An *in vitro* method of using a human heterodimer integrin comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit, or a DNA or RNA encoding an integrin subunit α10 or homologues or fragments thereof, as a marker or target molecule during angiogenesis.

85. A pharmaceutical composition comprising as an active ingredient a pharmaceutical agent or an antibody which is capable of stimulating cell surface expression of an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit α10 having essentially the same biological activity.

86. A process of using a collagen binding integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or a

homologue or fragment of said integrin or subunit having essentially the same biologically activity, as a marker or target molecule of cells or tissues expressing said integrin subunit α10, which cells or tissues are of animal including human origin.

87. A process according to claim 86, whereby said fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

88. A process according to claim 86, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

89. A process according to claim 86, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

90. A process according to claim 86, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 1.

91. A process according to claim 86, whereby the subunit β is β1.

92. A process according to claim 86, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

93. A process according to any one of claims 86-92, which process is used during pathological conditions involving said subunit α10.

94. A process according to claim 93, which pathological conditions comprise damage of cartilage.

95. A process according to claim 93, which pathological conditions comprise trauma, rheumatoid arthritis and osteoarthritis.

96. A process according to any one of claims 86-92, which is a process for detecting the formation of cartilage during embryonal development.

97. A process according to any one of claims 86-92, which is a process for detecting physiological or therapeutic reparation of cartilage.

98. A process according to any one of claims 86-92, which is a process for detecting regeneration of cartilage or chondrocytes during transplantation of cartilage or chondrocytes.

99. A process of using binding entities having the capability of binding specifically to an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or to homologues or fragments thereof having essentially the same activity, as markers or target molecules of cells or tissues expressing said integrin subunit α10, which cells or tissues are of animal including human origin.

100. A process according to claim 99, whereby said fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

101. A process according to claim 99, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

102. A process according to claim 99, whereby said fragment comprises the amino acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

103. A process according to claim 99, whereby said fragment comprises the amino acid sequence from about amino acid no. 140 to about amino acid No. 337 of SEQ ID No. 1.

104. A process according to claim 99, whereby the subunit β is β1.

105. A process according to any one of claims 99-104, which is a process for detecting the presence of an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or of an integrin

heterodimer comprising said subunit α10 and a subunit β, or of homologues or fragments thereof having essentially the same biologically activity.

106. A process according to any one of claims 99-104, which process is a process for determining the differentiation-state of cells during embryonic development, angiogenesis, or development of cancer.

107. A process for detecting the presence of an integrin subunit α10, or of a homologue or fragment of said integrin subunit having essentially the same activity, on cells, whereby a polynucleotide or oligonucleotide chosen from the group comprising a polynucleotide or oligonucleotide shown in SEQ ID No. 1 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

108. A process according to claim 107, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

109. A process according to claim 107, whereby said fragment is a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

110. A process according to claim 107, whereby said fragment is a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

111. A process according to claim 107, whereby said fragment comprises the amino acid sequence from about amino acid No. 952 to about amino acid no. 986 of SEQ ID No. 1.

112. A process according to claim 107, whereby said fragment comprises the amino acid sequence from about amino acid No. 140 to about amino acid No. 337 of SEQ ID No. 1.

113. A process according to any one of claims 107-112, which is a process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration or in therapeutic and physiological reparation of cartilage.

114. A process according to claim 113, wherein the pathological conditions are any pathological conditions involving the integrin subunit α10.

115. A process according to claim 113, whereby said pathological conditions are rheumatoid arthritis, osteoarthrosis or cancer.

116. A process according to claim 113, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

117. A process for determining the differentiation-state of cells during development, in pathological conditions, in tissue regeneration and in therapeutic and physiological reparation of cartilage, whereby a polynucleotide or oligonucleotide chosen from the nucleotide sequence shown in SEQ ID No. 1 is used as a marker under hybridisation conditions wherein said polynucleotide or oligonucleotide fails to hybridise to a DNA or RNA encoding an integrin subunit α1.

118. A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide chosen from the group comprising peptides of the cytoplasmic domain, the I-domain and the spliced domain.

119. A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence KLGFFAHKKIPEEEKREEKLEQ.

120. A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino

acid sequence from about amino acid no. 952 to about amino acid no. 986 of SEQ ID No. 1.

121. A process according to claim 117, whereby said polynucleotide or oligonucleotide is a polynucleotide or oligonucleotide coding for a peptide comprising the amino acid sequence from about amino acid no. 140 to about amino acid no. 337 of SEQ ID No. 1.

122. A process according to claim 117, whereby said pathological conditions are any pathological conditions involving the integrin subunit α10.

123. A process according to claim 117, whereby said pathological conditions are rheumatoid arthritis, osteoarthrosis or cancer.

124. A process according to claim 117, whereby said pathological conditions are atherosclerosis or inflammation.

125. A process according to any one of claims 117-124, whereby said cells are chosen from the group comprising chondrocytes, smooth muscle cells, endothelial cells, osteoblasts and fibroblasts.

126. A method of using an integrin subunit α10 as defined in claim 1 as a marker or target in transplantation of cartilage or chondrocytes.

127. A method of using binding entities having the capability of binding specifically to an integrin subunit α10 comprising the amino acid sequence shown in SEQ ID No. 1 or SEQ ID No. 2, or an integrin heterodimer comprising said subunit α10 and a subunit β, or to homologues or fragments thereof having essentially the same biological activity, for promoting adhesion of chondrocytes and/or osteoblasts to surfaces of implants to stimulate osseointegration.

128. Use of an integrin heterodimer comprising an integrin subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit α10 having essentially the same biological activity, as a target for anti-adhesive drugs or

molecules in tendon, ligament, skeletal muscle or other tissues where adhesion impairs the function of the tissue.

129. A method of stimulating, inhibiting or blocking the formation of cartilage or bone, comprising administration to a subject a suitable amount of a pharmaceutical agent or an antibody which is capable of using an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit α10 having essentially the same biological activity, as a target molecule.

130. A method of preventing adhesion between tendon/ligaments and the surrounding tissue after infection, inflammation and after surgical intervention where adhesion impairs the function of the tissue, comprising administration to a subject a suitable amount of a pharmaceutical agent or an antibody which is capable of using an integrin heterodimer comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit α10 having essentially the same biological activity, as a target molecule.

131. A method of stimulating extracellular matrix synthesis and repair by activation or blockage of an integrin heterodimer comprising a subunit α10 and a subunit β, or of the subunit α10 thereof, or of a homologue or fragment of said integrin or subunit α10 having essentially the same biological activity.

132. A method of using DNA or RNA encoding an integrin subunit α10 or homologues or fragments thereof as a target molecule.

133. A method according to claim 132, whereby a polynucleotide or oligonucleotide hybridises to the DNA or RNA encoding an integrin subunit α10 or homologues or fragments thereof and whereby said polynucleotide or oli-

PCT/SE 99/00544
29 -05- 2000

gonucleotide fails to hybridise to a DNA or RNA encoding en integrin subunit α1.

134. A method of using a human heterodimer integrin comprising a subunit α10 and a subunit β, or the subunit α10 thereof, or a homologue or fragment of said integrin or subunit having essentially the same biological activity, or a DNA or RNA encoding an integrin subunit α10 or homologues or fragments thereof, as a marker or target molecule during angiogenesis.

Sub C41 cont

Add C42